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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/643,775

08/18/2003

Oystein Lie

066849-019

4144

41552 7590 04/29/2009
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EXAMINER

CLOW, LORI A

ART UNIT

PAPER NUMBER

1631

NOTIFICATION DATE

DELIVERY MODE

04/29/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/643,775	Applicant(s) LIE ET AL.	
	Examiner LORI A. CLOW	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) 1-39, 54 and 55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-53 and 56-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/25/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 25 June 2008 has been entered.

Applicants' response, filed 4 March 2009, has been fully considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claims 1-62 are currently pending.

Claims 1-39, 54, and 55 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species or invention, there being no allowable generic or linking claim, as stated in the Office Action of 31 May 2007.

Claims 40-53 and 56-62 are examined herein.

Information Disclosure Statement

The Information Disclosure Statement filed 25 June 2008 has been considered. A signed copy of PTO Form 1449 is included with this Office Action.

Claim Rejections - 35 USC § 101-Non-statutory Subject Matter

35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 40-49 and 59-62 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. This is a new grounds of rejection.

Claims 40-49 and 59-62 are drawn to a

As stated in MPEP 2106, section IV if the claims are found to cover a judicial exception then the claims will be evaluated for providing a practical application of the judicial exception (*i.e.*, Law of Nature, Natural Phenomenon, or an Abstract Idea). This is in line with the recent decision in *In re Bilski*, 545 F.3d 943, 88 USPQ2d 1385 (Federal Circuit, 2008). In the instant case, the claims are drawn to an abstract idea, as the claim only recite *in silico* steps of providing a parent genotype database, providing an origin database, and providing genetic logistics. Therefore the claims must be evaluated further for providing a practical application of the judicial exception. A practical application is claimed if the claimed invention physically transforms an article or physical object to a different state or thing, or if the claimed invention otherwise produces a concrete, tangible, and useful result. In the instant case, a physical transformation of matter is not provided as the instant claims merely provide steps of *in silico* information manipulation. Therefore, none of said steps result in a physical transformation of matter such that the whole of the claim is statutory. (It is noted that claims 50-53 and 56-58 recite steps in which various assays are performed in steps prior to the database steps, therefore claims 50-53 and 56-58 are statutory.)

As such, the claims must be further evaluated for providing the practical application. One way to do this is for the claim to produces a concrete, tangible and useful result. The focus is not

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on the steps taken to achieve a particular result, but rather the final result achieved by the claimed invention. A claim may be statutory where it recites a result that is concrete (i.e. reproducible), tangible (i.e. communicated to a user), and useful (i.e. a specific and substantial). In the instant case the steps of “comparing a sample genotype” does not provide a tangible result that is useful to one skilled in the art and thus does not provide a practical application.

In addition to the facts set forth above that state that a claim must provide a practical application, the claim **must also meet** the machine-or-transformation test in order to be eligible under 35 USC 101 as statutory subject matter (*In re Bilski*, 545 F.3d 943, 88 USPQ2d 1385 (Federal Circuit, 2008)). In other words, the prohibition on patenting abstract ideas has two distinct aspects: (1) when an abstract concept has no claimed practical application, it is not patentable; (2) while an abstract concept may have a practical application, a claim reciting an algorithm or abstract idea can state statutory subject matter only if it is embodied in, operates on, transforms, or otherwise is tied to another class of statutory subject matter under 35 U.S.C. §101 (i.e. a machine, manufacture, or composition of matter). (*Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ 673, 1972), as clarified in *In re Bilski*, 545 F.3d 943, 88 USPQ2d 1385 (Federal Circuit, 2008) the test for a method claim is whether the claimed method is (1) tied to a particular machine or apparatus or (2) transforms a particular article to a different state or thing.

In the instant case, the method claims are not so tied to another statutory class of invention because the method steps that are critical to the invention are “not tied to any **particular apparatus or machine**” and therefore do not meet the machine-or-transformation test as set forth in *In re Bilski* 545 F.3d 943, 88 USPQ2d 1385 (Federal Circuit, 2008).

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 41 and 42 remain rejected under 35 U.S.C. 102(b) as being anticipated by Tessier et al. (Animal Genetics 1998; previously cited), for the reasons set forth in the previous Office Action and re-iterated below.

A. Tessier et al. teach a method wherein the origin of Atlantic salmon (which belongs to the family *Salmonidae* and the species *Salmo salar*) was determined using microsatellites. Tessier et al. teach that there are four tributaries that run into Lake St Jean. Using seven microsatellite loci and mtDNA Tessier was interested in determining whether fish spawning in different tributaries form genetically distinct populations. Allele frequency distribution, molecular variance, and genetic distance estimates all supported the hypothesis of genetic differentiation among salmon from different tributaries (Abstract, Page 738). Thus Tessier et al. teach that it is possible to determine the population of origin (i.e., which tributary the fish originated from) of Atlantic salmon based on its DNA. In the instant case the information collected on the fish in this study is being interpreted as a database because by definition a database is any collection of stored data.

Response to Applicant's Arguments Regarding Tessier

1. Applicant argues that Tessier's study is entirely based on an "empirical" estimation of effective population sizes and did not involve the actual steps recited in claims 40 and 41.

This is not persuasive. Tessier et al. teach the various embodiments of claims 40 and 41, as outlined above. Whether empirical or not, Tessier et al. teach the limitations of each of claims 40 and 41. Applicant is reminded that a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), *cert. denied*, 493 U.S. 975 (1989).

B. Claims 42-43, 45-46, 50-52, and 59-60 remain rejected under 35 U.S.C. 102(b) as being anticipated by O'Reilly et al (Animal Genetics 1998) for the reasons set forth in the Office Action and reiterated below.

Regarding claim 42, O'Reilly et al. teach a method wherein parentage of 792 Atlantic salmon was determined using microsatellites. O'Reilly et al. teach that twelve mature female and 12 mature male Atlantic salmon were used. Several measures of locus variability and information content were calculated for microsatellite data from the 24 parents in this study. Parentage was determined by comparing alleles at a given locus from each offspring with alleles from each of the potential parental crosses (Page 363-364). In the instant case the information collected on the parents in this study is being interpreted as a database because by definition a database is any collection of stored data.

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Regarding claim 43 O'Reilly et al. teach that twelve mature female and 12 mature male Atlantic salmon were used. Several measures of locus variability and information content were calculated for microsatellite data from the 24 parents in this study. Therefore there was genotype information for every potential parent Page 364).

Regarding claims 45 and 46 O'Reilly et al. analyzed Atlantic Salmon which belongs to the family Salmonidae and the species *Salmo salar* (Page 363).

Regarding claim 50 O'Reilly et al. teach a method wherein blood and muscle tissue was taken from the Atlantic Salmon and the DNA was isolated and purified prior to DNA typing. Microsatellite variation was surveyed at one dinucleotide (Ssa85) and three tetranucleotide loci (Ssa171, Ssa197, and Ssa202) (Page 364).

Regarding claim 51 O'Reilly et al. teach that twelve mature female and 12 mature male Atlantic salmon were obtained in November 1989 from a managed broodstock line from the Salmon Genetic Research Program, St Andrews, New Brunswick (Page 364)."

Regarding claim 52 O'Reilly et al. teach that the genetic markers being looked at were microsatellites. Microsatellite variation was surveyed at one dinucleotide (Ssa85) and three tetranucleotide loci (Ssa171, Ssa197, and Ssa202) (Page 364).

Regarding claim 59 O'Reilly et al. teach a method wherein the absence of a match excludes said candidate genotypes as the origin of the said sample. Specifically, O'Reilly et al. teach that samples of offspring that did not match any of the 12 sets of parents were analyzed further to identify the source of the mismatch or incompatibility (Page 365).

Regarding Claim 60 O'Reilly et al. collected information on the parent genotypes of the Atlantic salmon (Page 364). In the instant case the information collected on the parents in this

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study is being interpreted as a database because by definition a database is any collection of stored data.

Response to Applicant's Arguments Regarding O'Reilly

1. Applicant argues that "in O'Reilly et al., all parent animals, as well as offspring, were farmed together and the resulting analysis involving full and half sibling offspring necessarily led to incorrect parentage assignments. As a result, O'Reilly neither teaches nor suggests candidate genotypes representing distinct populations of origin".

This is not persuasive. It seems as if Applicant is arguing a "teaching away" of parent genotypes and distinct populations of origin". However, this is not clear to that Examiner. In the case that Applicant is arguing such, this is not persuasive. As O'Reilly et al. teach parental genotypes and offspring genotype, the claim limitations are anticipated. Applicant is reminded that "arguments that the alleged anticipatory art is 'nonanalogous art' or 'teaches away from the invention' or is not recognized as solving the problem solved by the claimed invention, [are] not 'germane' to a rejection under section 102." *Twin Disc., Inc. v. United States*, 231 USPQ 417 (Cl. Ct. 1986) (quoting *In re Self*, 671 F.2d 1344, 213 USPQ 1, 7 (CCPA 1982)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

A. Claims 44 and 47-48 remain rejected under 35 U.S.C. 103(a) as being unpatentable over O'Reilly et al. (Animal Genetics 1998) in view of Agresti (Aquaculture 2000), for the reasons set forth in the previous Office Action and re-iterated below.

The teachings of O'Reilly et al are presented above.

Regarding claims 44 and 47-48 O'Reilly et al. do not teach a method wherein the candidate parent genotypes belong to at least two different species and the species is *Oreochromis niloticus* (Nile Tilapia).

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However Agresti et al. teach a method for deriving genetically superior tilapia produced from inter crossing five different species of fish: *Oreochromis niloticus* (Nile Tilapia), *Oreochromis aureus*, *Oreochromis mossambicus*, and *Sarotherodon galilaeus*. A genomic map has been created for each of the parents using microsatellite and AFLP DNA markers (Abstract). Agresti et al teaches that these markers can be used to track the parentage of crosses between the different species of Tilapia (Page 54).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the method of O'Reilly et al. to determine parentage of tilapia when the candidate parent genotypes belong to more than one species of tilapia as suggested by Argesti et al. for the benefit of being able to distinguish between species of tilapia which can not be distinguished based on morphology alone. Further the prior art of Rico (Proceedings: Biological Sciences) et al. teach that they studied the conservation of microsatellites among distantly related species of fish and patterns of crossspecies polymorphisms. Specifically they used primer pairs from 18 microsatellite loci on a panel of different fish species. Rico et al teach that microsatellites are often hypervariable in number and length and that the flanking nucleotides of the microsatellite regions are also polymorphic. Thus studying microsatellites and the regions which flank microsatellites have become an important source of polymorphic genetic markers for parentage testing (Abstract, page 549, and Table 2).

B. Claim 49 remains rejected under 35 U.S.C. 103(a) as being unpatentable over O'Reilly et al. (Animal Genetics 1998) in view of Garcia de Leon (Aquaculture 1998) for the

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reasons set forth in the Office Action and re-iterated below.

The teachings of O'Reilly et al are presented above.

Regarding claim 49 O'Reilly et al. do not teach a method wherein the sample and candidate parent genotypes belong to a species selected from the group consisting of rainbow trout, halibut, sea bass and Atlantic cod.

However Garcia de Leon et al teach a method in which microsatellite markers are used to determine parentage in sea bass (Abstract).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the method of O'Reilly et al to sea bass for the benefit of being able to study an additional fish.

C. Claim 53 remains rejected under 35 U.S.C. 103(a) as being unpatentable over O'Reilly et al. (Animal Genetics 1998) in view of Fries (Nature 2001) for the reasons set forth in the Office Action and re-iterated below.

The teachings of O'Reilly et al. are presented above.

Regarding Claim 53 O'Reilly et al. does not teach that the method wherein the genetic markers are SNPs.

However, Fries et al. teach a method for verification of identity and parentage using a standardized set of single nucleotide polymorphisms as an alternative to microsatellite analyses (Page 508).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of O'Reilly et al. by using SNPs as suggested

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by Fries because SNPs have a low mutation rate, are suitable for standardization, and they do not require a specific typing platform.

D. Claim 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Reilly et al. (Animal Genetics 1998) and Fries et al. (Nature 2001) as applied to claim 53 above, and in further of Cox (US Patent 6406847 Filed 1999) for the reasons set forth in the Office Action and re-iterated below.

The teachings of O'Reilly et al. and Fries et al. are presented above.

Regarding claims 56-58 the combined references do not teach that the method of identifying the SNP is performed using an oligonucleotide ligation assay (OLA) or using a hybridization assay on a DNA chip.

However, Cox et al. teach that there are multiple methods such as chip hybridization and oligonucleotide ligation assay (OLA) that have been developed for genotyping SNPs (Column 2).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the methods of O'Reilly and Fries by detecting the SNPs using OLA or chip hybridization as suggested by Cox because both of these procedures were routinely used for genotyping SNPs at the time of the presently claimed invention.

E. Claims 61-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Reilly et al. (Animal Genetics 1998) in view of Dodds (US Patent 6287254 Filed 1999) for the reasons set forth in the Office Action and re-iterated below.

The teachings of O'Reilly et al are presented above.

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Regarding claims 61-62 O'Reilly does not teach that the database is capable of instantaneously comparing the sample genotype to the collection of genotypes and that the database is accessible through the Internet.

However, Dodds et al. teach a genotype database which stores data which is in the category of mostly genotype or genetic information. The information in the databases is then used to build computer driven statistical models. The computer network may conveniently include the Internet (Column 7).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of O'Reilly et al by storing the information in a computer that is connected to the internet as suggested by Dodds for the benefit of being able to share the information obtained from genotyping locally, regionally, nationally, and globally (Column 3).

Response to Applicants Arguments Regarding all 103 Rejections

1. Applicant argues that the deficiencies of O'Reilly et al. are not cured by the instantly recited references in the 103(a) rejections above.

This is not persuasive. For the reasons set forth above regarding the teachings of O'Reilly et al., O'Reilly et al. in view of the above cited references makes obvious the claimed subject matter. The rejections are maintained for the reasons of record.

Double Patenting

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The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 40-53 and 56-62 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 62-83 of copending

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Application No. 10/349,331. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the present claims and the claims of the '331 application encompass methods for determining the population of origin of a sample and the parentage origin of a sample by using a database that contains a collection of genotypes derived from samples. In the methods a sample genotype is compared to the database in order to determine the population that the sample originated from and to determine the parentage of the sample. Claims 40-41 of the instant application are drawn to determining the population of origin of a fish sample. Claims 42-62 of the instant application are drawn to determining the parentage origin of a fish sample. On the other hand, Claim 62 of the '331 application are drawn to determining both the parentage origin and population origin of any type of sample from any plant and animal species that has reproduction involving the mating of two parents to produce a set of offspring. Both claim sets further limit the animal species to fish and recite various types of fish (i.e. Salmon, tilapia, cod etc.) Thus the present claims as written encompass multiple embodiments, all of which are anticipated by the '331 claims. For example, embodiments of claim 40 for determining the population origin of a fish are anticipated by claim 62 of the '331 application, as the '331 claims set forth all the method steps and structural limitations required by these embodiments of the present claims. For these reasons the conflicting claims are not patentably distinct from each other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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Conclusion

No claims are allowed.

The outstanding rejections under 35 USC 112, 2nd paragraph have been withdrawn in view of Applicant's arguments and in view of the claim amendments.

Inquiries

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The Central Fax Center Number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lori A. Clow, Ph.D., whose telephone number is (571) 272-0715. The examiner can normally be reached on Monday-Friday from 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran can be reached on (571) 272-0720.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete

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service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

April 27, 2009

/Lori A. Clow, Ph.D./

Primary Patent Examiner

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